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Goddard Space Flight Center

Inside Wallops

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Galileo Finds Jupiter's Rings Formed by Dust Blasted off Small Moons

Jupiter's intricate, swirling ring system is formed by dust kicked up as interplanetary meteoroids smash into the giant planet's four small inner moons, according to scientists studying data from NASA's Galileo spacecraft. Images sent by Galileo also reveal that the outermost ring is actually two rings, one embedded within the other.

In the late 1970s, NASA's two Voyager spacecraft first revealed the structure of Jupiter's rings: a flattened main ring and an inner, cloud-like ring, called the halo, both composed of small, dark particles. One Voyager image seemed to indicate a third, faint outer ring. New Galileo data reveal that this third ring, known as the gossamer ring because of its transparency, consists of two rings. One is embedded within the other. Both are composed of microscopic debris from two small moons, Amalthea and Thebe.

Galileo took three dozen images of the rings and small moons during three orbits of Jupiter in 1996 and 1997. The four moons display bizarre surfaces of undetermined composition that appear very dark, red and heavily cratered from meteoroid impacts. The rings contain very tiny particles resembling dark, reddish soot. Unlike Saturn's rings, there are no signs of ice in Jupiter's rings.

Scientists believe that dust is kicked off the small moons when interplanetary meteoroids strike them, or fragments of comets and asteroids, at speeds greatly magnified by Jupiter's huge gravitational field, like the cloud of chalk dust that rises when two erasers are banged together. The small moons are particularly vulnerable targets because of their relative closeness to the giant planet.

As dust particles are blasted off the moons, they enter orbits much like those of their source satellites, both in their size and in their slight tilt relative to Jupiter's equatorial plane. A tilted orbit wobbles around a planet's equator, much like a hula-hoop twirling around a person's waist. This close to Jupiter, orbits wobble back and forth in only a few months.

The new images and further information on this discovery and the Galileo mission are available on the Internet at: **http://www.jpl.nasa.gov/galileo** or: **http://www.news.cornell.edu/releases/sept98/jupiter_rings.html**

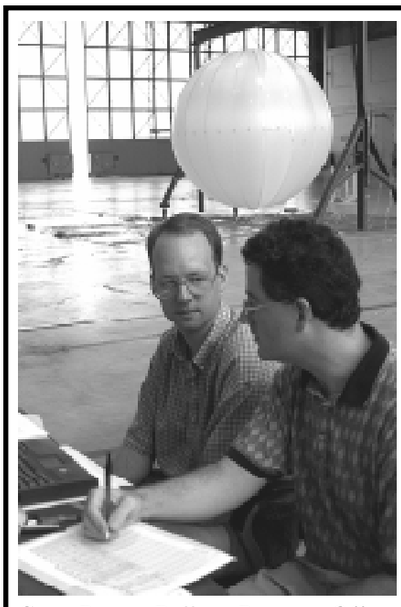
Engineers Regain Control of SOHO Spacecraft

Spacecraft controllers successfully regained control of the Solar and Heliospheric Observatory (SOHO) spacecraft after sending a series of commands directing the spacecraft to fire thrusters and turn its face and solar power panels fully towards the Sun.

The SOHO flight operations team reported success in the maneuver, at 2:29 p.m. EDT Wednesday, Sept. 16, the first time the joint European Space Agency (ESA) and NASA spacecraft has been controlled from the ground since SOHO spun out of control and communication was lost on June 24.

More details about SOHO can be found at: **http://sohowww.estec.esa.nl** and **http://sohowww.nascom.nasa.gov**

Chuck Brodell, (left) Carrier Systems Branch, Marcus Murbach,(center) Ames Research Center and Ed White, Computer Sciences Corporation prepare Murbach's payload for launch, Sept. 18, from White Sands Missile Range (WSMR), NM. WSMR digital photo.



Steve Raque, Balloon Program Office (left) discusses procedures with Henry Cathey, Physical Science Laboratory during balloon material tests, Sept. 17. Digital photo by Rick Huey.

CNN Correspondent John Holliman Dies in Traffic Accident

CNN correspondent John Holliman, was killed in an automobile accident near his home in Georgia on Sat., Sept. 12, 1998. Holliman was at Wallops on May 6 for the launch of the student subsem Orion sounding rocket. His profound interest in the educational benefits of the mission and desire to get the entire story led him to interview every student. The segment ran on CNN following the launch.

NASA Administrator Daniel S. Goldin issued the following statement on the passing of CNN's John Holliman:

"All of us at NASA are stunned and saddened by this tragic loss. John's love and enthusiasm for space flight and exploration was infectious and brought America some of the most memorable moments and finest reporting in the history of NASA.

"John's love for the space program was exceeded only by his love for his family. I first met John during my confirmation hearings in the spring of 1992. On the many occasions I have spoken with him since, he always exchanged pictures and stories about his family. He was very proud of them and loved them dearly.

"His passing is a tremendous loss for all of us. Our thoughts and prayers go out to Diane and Jay and to his many friends and colleagues at this difficult time."

Dealing With Dry Eyes

by Betty Jackson, R.N.

Reduce caffeine intake. Caffeine dehydrates you and your eyes.

Reduce intake of alcohol.

Stop smoking.

Drink lots of water. Eight glasses a day, if possible.

Install a humidifier if your home or office is extremely dry.

Take the lowest dose possible of fluid-reducing medications, such as antihistamines and diuretics (discuss with your doctor).

Remove contact lenses when you are sleeping.

Reduce contact lens wearing time during the day, if necessary.

Ask your doctor about changing to different contact lenses.

Use over-the-counter artificial tears (Hypotears™, Refresh™).

If dry eyes are moderate to severe, try a thicker drop (Aquasite™) or a lubricating ointment (LacriLube™) at bedtime.

Don't forget ……..

Grammar and Punctuation Review is Sept. 28-30. Call Sherry Kleckner, 1204.

Goddard Community Day, "Celebrating NASA's 40th Anniversary" is Sept. 27, 9 a.m. to 4 p.m. at the Greenbelt Visitor Center.

Early Retirement Authority expires Sept. 30. Goddard's early out authority will NOT be extended. Call Lisa Johnson, x1511.

Federal Women's Day Events Rescheduled

by Pat Pruitt

Events originally scheduled for Aug. 26 to celebrate Federal Women's Day have been rescheduled for Oct. 6. We have been able to reschedule all of the original speakers and the caterer will provide the same luncheon menu as previously offered.

Anyone who has already submitted a training request for the morning and/or afternoon sessions does not need to re-submit. There are available slots in the training sessions for anyone interested in attending. Training sessions will be held in Building E-104. The cafeteria bulletin board will have updated flyers.

The luncheon will be in the Williamsburg Room of Building E-2. Due to space limitations, no additional tickets will be sold. HOWEVER, if you have a ticket you are unable to use, contact Bev Hall, x1714 or Pat Pruitt, x1145.

Wallops Island Beach Cleanup

During the annual beach cleanup on Sept. 19, volunteers picked up 16 bags of trash from the north end of Wallops Island south to the beginning of the sea wall. The most common items picked up by the 27 volunteers were pieces of lumber and plastic, plastic bags, bottles and rubber balloons. The most unusual piece found was a washing machine agitator.

Employees Invited to Presentation

Benjamin Zander, conductor for the Boston Philharmonic Orchestra will be the guest speaker for the NASA Headquarters Project Management Program on Wednesday evening, Sept. 30 at Wallops.

Employees are invited to hear Zander's presentation, "The Sky is not the Limit: An Exploration of Leader-ship" in Building F-3 at 7:30 p.m. He will have a musical presentation and provide information on how to live life to the fullest by recapturing the passion for what you do.

Blood Drive.....

for the Eastern Shore Blood Bank

October 6, 1998
Bldg. F-3

Call Robyn Griffin, x2309 or Linda Layton, x1561 to schedule an appointment.

Upcoming MAC Events

October 17 - Octoberfest Noon to 4 p.m., Food, D.J., Hayrides

October 30 - Halloween Party

Steak Dinner
October 9
6 p.m.
Building F-3

$15 per ticket. Sales will be limited to 75 tickets. Call Jan Neville, x 1526 or Bev Hall, x1714.

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